Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning Deployment of Advanced	)	GN Docket No. 17-199
Telecommunications Capability to All Americans	)	
In a Reasonable and Timely Fashion	)	

To: The Commission

COMMENTS OF
THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

The National Rural Electric Cooperative Association ("NRECA") hereby submits its Comments in response to the Thirteenth Section 706 Report Notice of Inquiry in which the Commission is soliciting information and data to assist it in best determining the current state of broadband deployment and to assess whether advanced telecommunications capabilities are being deployed to all Americans in a reasonable and timely fashion,[1] focusing on the availability of advanced telecommunications capabilities in rural areas.

INTRODUCTION

NRECA is the national service organization for more than 900 not-for-profit rural electric cooperatives that provide electric energy to approximately 42 million people in 47 states or approximately 12 percent of electric customers, including 327 of the nation's 353 "persistent poverty counties" (93%). Of the 42 million Americans served by cooperatives, an estimated 4 million live in persistent poverty counties. Rural electric cooperatives serve 88% of counties of the United States. Rural electric cooperatives were formed to provide safe, reliable electric

[1] *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 17-199, Thirteenth Section 706 Report Notice of Inquiry, FCC 17-109 (rel. Aug. 8, 2017) ("*NOI*").

service to their member-owners at the lowest reasonable cost. Rural electric cooperatives are dedicated to improving the communities in which they serve; management and staff of rural electric cooperatives are active in rural economic development efforts. Electric cooperatives are private, not-for-profit entities that are owned and governed by the members to whom they deliver electricity. Electric cooperatives are democratically governed and operate according to the seven Cooperative Principles.[2]

NRECA and its members are intensely interested in the deployment of advanced telecommunications capabilities within the communities and areas in which electric cooperatives provide electric service. Established service providers do not offer broadband service that meets the current fixed broadband benchmark of 25 Mbps download and 3 Mbps upload in many of these communities, prompting many electric cooperatives to undertake the investments and commit the resources to deploy fixed broadband services within these communities. Accordingly, NRECA has a strong interest in this proceeding.

COMMENTS

1. Section 706 Reports Should Continue to Assess the Availability of Fixed and Mobile Broadband Separately.

The Commission should continue to assess fixed and mobile broadband separately in determining whether advanced telecommunications capabilities are being deployed to all Americans in a reasonable and timely fashion.[3] NRECA supports the Commission's decision that it will separately report on mobile and fixed broadband advanced telecommunications capabilities.[4] Mobile and fixed broadband services remain distinct, complementary offerings.

[2] The seven Cooperative Principles are: Voluntary and Open Membership, Democratic Member Control, Members' Economic Participation, Autonomy and Independence, Education, Training and Information, Cooperation Among Cooperatives, and Concern for Community.

[3] *NOI*, at para. 9 (among other issues, the *NOI* inquires whether some form of fixed *or* mobile advanced telecommunications capabilities should be the focus of Section 706 Reports).

[4] *NOI*, at para. 11.

That mobile broadband may be the exclusive choice for broadband communications in some geographic areas or among certain demographic groups is not a basis for concluding that the presence of either fixed broadband *or* mobile broadband is evidence that a community or area is obtaining advanced telecommunications capabilities in a reasonable and timely fashion. As noted by Commissioner Clyburn, reliance on mobile broadband is often a necessity rather than a choice for persons with limited incomes.[5] Moreover, mobile broadband subscription rates are driven, in part, by many individuals' exclusive reliance on mobile devices for voice communications, as wireline subscriptions (TDM or IP) among residential customers continue to decline.

Telecommuters and persons working remotely generally rely on fixed broadband services to perform their jobs or provide their services, supplemented by mobile broadband services. That more edge applications are now available for use with mobile broadband services clearly enhances a customer's ability to perform more tasks when in transit or at temporary locations.[6] Developing complex spreadsheets, revising graphic designs or performing services as a remote employee for a call center on a full-time basis requires more than a smartphone and a wireless connection. The same is true for secondary school and college students tasked to prepare research reports using online resources. Moreover, in areas in which high capacity fixed broadband is available, households typically have multiple devices—laptops, desktops, tablets and even smartphones—that connect to the Internet via on-premise WiFi that is enabled by fixed broadband service delivered to the premises. This is equally true in single-family homes and in residences of Multiple Dwelling Units (MDUs). Not surprisingly, NRECA

[5] Concurring Statement of Commissioner Mignon L. Clyburn, GN Docket No. 17-199 (August 8, 2017). .
[6] *NOI*, at para.7.

members consistently report that persons in their communities have a strong interest in obtaining high capacity, fixed broadband service in their homes.

Mobile broadband services are provided with restrictions that minimize their utility.[7] This is true even for so-called "unlimited" plans offered by the four major wireless carriers. According to trade press reports, unlimited usage is available under these plans, but 4G LTE speeds are not guaranteed beyond 22-28 gigabytes (GB) of data per month, depending on the carrier.[8] Beyond these thresholds, carriers may throttle network speeds due to congestion at the local cell site or within the network core.[9] Unlimited plans also restrict the use of mobile hotspot devices. According to trade press reports, Verizon, Sprint and T-Mobile reserve the right to throttle usage at 10 GB per month and AT&T does not allow unlimited customers to connect mobile hotspot devices.[10] Thus, the utility of mobile broadband to support multiple on-premise or within-the-home devices is constrained. By contrast, usage restrictions on fixed services tend to be less of an issue as limits are much higher or not applicable. For example, when a customer subscribes to Comcast's DOCSIS 3.1 service under a two-year contract, no usage restrictions apply and one terabyte (TB) per month is the usage cap for DOCSIS 3.1 subscribers that elect month-to-month service.[11] Under the CAF II reverse auction, the usage

[7] Operationally, electric utilities cannot rely on mobile broadband to provide the second-to-second precision reporting required to balance the system loads to avoid outages and remain aware of voltage fluctuations and other operational phenomena.

[8] Zach Epstein, *Is there really such a thing as an unlimited data plan,* BGR (Feb. 17, 2017, 10:33 am) http://bgr.com/2017/02/17/unlimited-data-verizon-att-t-mobile-sprint-nah/ (last visited on September 5, 2017).

[9] *Id.*

[10] *Id.*

[11] Daniel Frankel, *Comcast begins second leg of DOCSIS 3.1 rollout in Nashville,* Fierce Cable, (June 16, 2016, 11:16 pm) http://www.fiercecable.com/cable/comcast-begins-second-leg-docsis-3-1-rollout-nashville (last visited on September 5, 2017).

allowances for the two highest performance tiers are set at two (2) TB per month and the usage allowance for the Baseline tier is set at 150 GB or the U.S. median, whichever is higher.[12]

In view of the distinct characteristics of fixed broadband and mobile broadband, the Commission should continue to assess fixed and mobile broadband separately in reaching USF support decisions. If unserved or underserved areas and communities are without fixed broadband service comparable to that available in urban areas, progress toward eliminating digital divide in these areas and communities will stall.

2. Transmission Speed Benchmarks Should Be Retained and May Be Supplemented.

Broadband transmission speeds should be retained as the primary benchmark for determining whether advanced telecommunications capabilities are being deployed to all Americans in a reasonable and timely fashion. This metric is the most widely established, basis for describing the capabilities of the myriad broadband technologies, particularly for fixed broadband services. It is also central to virtually all Commission programs supported by universal service contributions under Section 254 of the Communications Act, as those programs are now largely reoriented from voice services to broadband. A possible additional benchmark is usage, particularly usage that is unlimited or limited and whether the usage is qualified, such as speed thresholds or use restrictions, including the nature or type of devices that may be connected.

The use of broadband transmission speeds, possibly supplemented by usage, is consistent with the letter and spirit of Section 706. The use of the term "all Americans" in Section 706(b) is neither ambiguous nor qualified. Section 706 Reports must determine what

[12] *Connect America Fund, ETC Annual Reports and Certifications,* WC Docket Nos. 10-90, 14-58, Report and Order on Reconsideration, 32 FCC Rcd 1624, 1628 (2017).

constitutes advanced telecommunications capabilities and whether these capabilities are being provided to "all Americans" in a reasonable and timely fashion. This benchmark will ensure that Section 706 Reports provide Congress, the Commission, local communities and services providers with a common understanding of whether these capabilities are being provided throughout the country and will establish the basis for policy determinations, including the extent and nature of universal service support.

3. The Fixed Broadband Transmission Speed Benchmark Should Be Based on Fixed Broadband Transmission Speeds Available in Major Urban Areas.

One of the most important questions posed in the NOI is the appropriate framework for updating the fixed broadband speed benchmark in determining whether advanced telecommunications capabilities are being deployed to all Americans in a reasonable and timely fashion.[13] The NOI requests input on a series of questions, including whether the benchmark should be based on the services consumers are purchasing, the mean or median speed purchased by consumers, what a substantial majority of consumers are purchasing, or whether consumer subscriptions may not be the best approach.[14] From NRECA's perspective, the framework should be forward-looking and focused on bridging the "digital divide" that persists between urban and many rural areas.

Fixed broadband technologies are evolving rapidly and services providers are investing in and deploying technologies striving to meet consumer demand for faster access to the Internet. These deployments are occurring initially in the major markets by some of the largest services providers and by new entrants. For example, Cox Communications projects that 40% of the households that it serves nationwide will have access to Gigabit speeds by the end of

[13] *NOI*, at paras. 23-29.
[14] *NOI*, at para. 24.

2017;[15] AT&T intends to deploy G.fast, offering broadband speeds of up to 500 Mbps, to up 10 million homes in a few years;[16] Comcast is rolling out DOCSIS 3.1 in multiple cities offering speeds of 1 Gigabit downstream/35 Mbps downstream;[17] in several cities where it has yet to deploy DOCSIS 3.1, Comcast offers free upgrades to existing service categories from 75 Mbps to 100 Mbps and from 150 Mbps to 200 Mbps;[18] and Webpass, a new broadband services provider wholly-owned by Google, relies on millimeter wave technology to deliver Internet service of 100, 200 or 500 Mbps to residents in MDUs located in densely populated urban areas, providing service in five US markets with over 800 buildings online at the end of 2016.[19] Consumer acceptance of higher speed broadband is overwhelmingly positive. As higher capacity technologies become available in a market such as DOCSIS 3.1 or fiber to the home ("FTTH"), ILEC broadband subscriptions plummet in areas in which they only offer DSL.[20] From NRECA's perspective, technologies that support transmission speeds well above the current benchmark represent the advanced telecommunications capabilities that should be available to all Americans in a reasonable and timely fashion. Thus, a more useful and relevant approach for updating the benchmark for fixed broadband services is one based on the

[15] Daniel Frankel, *Cox says its 'about step on the gas hard with DOCSIS 3.1 deployment*, Fierce Telecom (July 31, 2017, 11:49 am) http://www.fiercecable.com/cable/cox-says-it-s-about-to-step-gas-hard-docsis-3-1-deployment (last visited on September 5, 2017).

[16] G. Fast News, Edited by David Burstein, http://gfastnews.com/index.php/90-r/380-at-t-s-news-g-fast-for-big-buildings-outside-of-territory (last visited on September 5, 2017).

[17] Daniel Frankel, *Comcast rolls out DOCSIS 3.1 in Boston, preps to enter Philly and other East Coast locales*, Fierce Cable, (Jun 22, 2017, 12:49 pm) http://www.fiercecable.com/cable/comcast-expands-docsis-3-1-footprint-entering-philadelphia-washington-and-other-eastern (last visited on September 5, 2017).

[18] Daniel Frankel, *Comcast boasts broadband speeds in pre-DOCSIS 3.1 states*, Fierce Cable (Nov. 21, 2016, 12;10 pm) http://www.fiercecable.com/cableS/comcast-boosts-broadband-speeds-nine-states (last visited on September 5, 2017).

[19] Melia Robinson, *Here's what it's like to use Webpass, the high-speed internet provider bought by Google*, Business Insider (Dec. 7, 2016, 11:41 am) http://www.businessinsider.com/webpass-high-speed-internet-review-2016-12 (last visited on September 5, 2017).

[20] Sean Buckley, *AT&T, Verizon and Tier 2 telcos' stock threatened by cable's broadband speeds, DOCSIS 3.1 migrations*, Fierce Telecom (Aug. 21, 2017, 11:21 am) http://www.fiercetelecom.com/telecom/at-t-verizon-tier-2-telcos-stocks-threatened-by-cable-s-broadband-speeds-docsis-3-1 (last visited on September 5, 2017) (the ten largest ILECs lost nearly 230,000 broadband subscribers during the second quarter of 2017).

broadband transmission speeds achievable by these newer technologies that cable companies, ILECs and other broadband providers are deploying. That consumers are subscribing to these higher transmission speed offerings as they are made available in the marketplace confirms that reliance on average or median transmission speeds or some other aggregate measure of existing fixed broadband subscriptions will always result in an understated broadband transmission speed benchmark. A far better framework would set the benchmark based on the availability of higher transmission speed offerings in the top twenty-five or fifty urban markets, perhaps qualified by a minimum subscription rate or take rate during the year of introduction.

This approach is grounded in economic reality. The investments made by cable companies in deploying DOCSIS 3.1 and FTTH technologies, by ILECs in deploying FTTH and G. Fast technologies and by new providers in deploying millimeter wave technology address concerns over whether benchmarks based on advanced technology deployments are being set with sufficient "economic rigor."[21] These companies are making major investments in more advanced broadband technologies because they project substantial returns on these investments. Use of this framework would provide a more realistic basis for adjusting the fixed broadband transmission speed benchmark.

[21] *NOI*, at para. 26.

CONCLUSIONS

NRECA supports the Commission in taking a fresh look for developing its Section 706 Reports. Fixed broadband and mobile broadband services should continue to be assessed independently as these two major broadband service categories remain complementary. Fixed broadband is particularly important in bridging the digital divide that separates highly developed urban areas from many rural areas. Broadband transmission speed should be retained as the primary benchmark for fixed broadband as it provides a basis for comparing the performance of diverse technologies. The fixed broadband transmission speed benchmark should be forward-looking, based on current deployments of higher capacity broadband networks and technologies being rolled out by major services providers and new entrants, principally in urban areas of the United States.

Respectfully submitted,

NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

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